CREATIVE ACCOUNTING: AN EMPIRICAL EXAMINATION

Stephen Crouch
Master of Economics (Macquarie), Bachelor of Business (UTS)
FCA, FPA, AMC

This dissertation is presented in partial fulfilment of the requirements for the degree of Doctor of Business Administration

Macquarie Graduate School of Management

March 2010
# TABLE OF CONTENTS

Table of Contents ...............................................................................................................................2

List of Tables .......................................................................................................................................7

List of Figures ......................................................................................................................................9

Abstract ...............................................................................................................................................10

Certification ........................................................................................................................................13

Acknowledgments ............................................................................................................................14

Chapter 1. Introduction...................................................................................................................15

1.1 Introduction .......................................................................................................................15

1.2 Annual Reports under Examination ..............................................................................15

1.2.1 Contribution to Public Practice .............................................................................17

1.2.2 Building Knowledge About Creative Accounting..............................................18

1.3 Motivation for the Study ..................................................................................................18

1.4 Objective of the Study ......................................................................................................20

1.5 Overview of this Research ...............................................................................................21

1.5.1 Sample Selection .......................................................................................................23

1.5.2 Data Collection ..........................................................................................................23

1.6 Testing for Creative Accounting ....................................................................................24

1.7 Creative Accounting Support ..........................................................................................25

1.8 Chapter Summary ..............................................................................................................29

Chapter 2. Literature Review ..........................................................................................................31

2.1 Introduction .........................................................................................................................31

2.2 Financial Reporting ............................................................................................................33

2.2.1 Defining Financial Reports ......................................................................................34

2.2.2 The Objective of Financial Reports .......................................................................37

2.2.3 The Qualitative Components of Financial Reports .............................................40

2.2.4 Production of Financial Reports .............................................................................44

2.2.5 Users of Financial Reports .......................................................................................46

2.2.6 Usefulness of Financial Reports ..............................................................................50

2.3 Evolution of Financial Reports ........................................................................................54

2.3.1 Financial Reporting Requirements ..........................................................................55

Legislative Regulation .................................................................................................................55

Professional Accounting Standards ..........................................................................................57

Stock Exchange Rules ..................................................................................................................58

2.3.2 Financial Reporting for the Modern Corporation..................................................59

1851 – 1900: Colonial Financial Reporting ...........................................................................59

1901 – 1950: State Financial Reporting ..................................................................................66


2001 – Present: International Financial Reporting ...............................................................74

2 of 235
2.4 Defining Creative Accounting.................................................................77
  2.4.1 A Definition for Creative Accounting.................................................78
    Creative Accounting and Fraud.................................................................82
  2.4.2 Examples of Creative Accounting Techniques......................................84
    Accounting Method Change.................................................................85
    Asset Valuation......................................................................................86
    Consolidation Treatments..................................................................86
    Expenses Moved Interperiod.................................................................86
   Extraordinary Items...............................................................................87
    Intangible Assets..................................................................................87
    Liability Reduction...............................................................................88
    Merger Accounting...............................................................................88
    Revenue Recognition...........................................................................89
    Tax Effect Adjustments......................................................................90
  2.4.3 Motivators for Creative Accounting..................................................90
    Managing Market Expectations............................................................91
    Information Asymmetry........................................................................93
    Managing Credibility...........................................................................94
    Treatment of Motivation....................................................................96
  2.5 Research Identifying Creative Accounting............................................97
  2.5.1 Gaps Appearing in financial Accounts..............................................98
  2.5.2 Taxonomy of Australian Creative Accounting Research.......................107
    Specific Technique Identification........................................................107
    Measurement of Unexpected Accruals................................................110
    Other (Historical Perspective and Value Relevance)............................117
  2.6 Chapter Summary..................................................................................119

Chapter 3. Data and Methods..........................................................................124
  3.1 Testing for Creative Accounting..........................................................124
    Time-Series vs. Cross-Sectional Study....................................................127
    International Financial Reporting Standards (IFRS)...............................129
  3.2 Sample Selection...................................................................................131
    Selection Criteria for the ASX 200........................................................132
    Selection of Criteria Predating the ASX 200.........................................134
    Other Selection (Deselection) Criteria....................................................135
    Reconciliation of the Movement of Firms within the ASX 200..............136
    3.2.1 Companies Selected in the Sample................................................137
    3.2.2 Methods Used to Collect Data for the Sample Companies...............139
      Published Annual Reports...................................................................141
      Aspect Database Data.........................................................................143
      Verification Between Manual and Electronic Datasets........................143
  3.3 Measuring Creative Accounting Methodology.........................................145
    3.3.1 Evolution of the Jones Model : the Discretionary Accrual Model........148
    3.3.2 Absolute Discretionary Accrual Models.........................................152
  3.4 Theory Development and Model Building.............................................156
    3.4.1 Control Variables..........................................................................158
      Cash Flow..........................................................................................159
      Time...............................................................................................160
      Sector.............................................................................................161
Model 4: \( NPAT = \text{Sector} + \text{Large Cap} + \text{Operating Cash flow} \)

Model 5: \( NPAT = \text{Sector} + \text{Year} + \text{Operating Cash flow} \)

Model 6: \( NPAT = \text{Sector} + \text{Large Cap} + \text{Year} + \text{Operating Cash flow} \)

Model 7: \( (NPAT > 0) = \text{Sector} + \text{Operating Cash flow} \)

Model 8: \( (NPAT > 0) = \text{Year} + \text{Operating Cash flow} \)

Model 9: \( (NPAT > 0) = \text{Large Cap} + \text{Operating Cash flow} \)

Model 10: \( (NPAT > 0) = \text{Sector} + \text{Large Cap} + \text{Operating Cash flow} \)

Model 11: \( (NPAT > 0) = \text{Sector} + \text{Year} + \text{Operating Cash flow} \)

Model 12: \( (NPAT > 0) = \text{Large Cap} + \text{Year} + \text{Operating Cash flow} \)

Model 13: \( (NPAT > 0) = \text{Large Cap} + \text{Year} + \text{Sector} + \text{Operating Cash flow} \)

Model 14: \( \text{Sales1 model - Cash} = \text{Revenue} + \text{large_cap} + \text{sector} \)

Model 15: \( \text{Sales1 model - Cash} = \text{Revenue} + \text{large_cap} + \text{sector} + \text{year} \)
<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Chapter 1 Summary</td>
<td>29</td>
</tr>
<tr>
<td>Table 2</td>
<td>Accounting Convention Development</td>
<td>42</td>
</tr>
<tr>
<td>Table 3</td>
<td>Membership of FRC &amp; AASB</td>
<td>56</td>
</tr>
<tr>
<td>Table 4</td>
<td>Creative Accounting Techniques</td>
<td>84</td>
</tr>
<tr>
<td>Table 5</td>
<td>Chapter 2 Summary of Literature Survey</td>
<td>119</td>
</tr>
<tr>
<td>Table 6</td>
<td>SX200 firm Additions and Deletions</td>
<td>136</td>
</tr>
<tr>
<td>Table 7</td>
<td>ASX Eligible Firms for Sample</td>
<td>137</td>
</tr>
<tr>
<td>Table 8</td>
<td>Sample Selection by Industry</td>
<td>138</td>
</tr>
<tr>
<td>Table 9</td>
<td>Dependent Variables Collected from Annual Reports</td>
<td>140</td>
</tr>
<tr>
<td>Table 10</td>
<td>Source for Data Collected</td>
<td>141</td>
</tr>
<tr>
<td>Table 11</td>
<td>Data Verification Table</td>
<td>145</td>
</tr>
<tr>
<td>Table 12</td>
<td>Re-grouped Sectors Used in Model</td>
<td>163</td>
</tr>
<tr>
<td>Table 13</td>
<td>Top 20 Companies by Average Seven Year Capitalisation</td>
<td>166</td>
</tr>
<tr>
<td>Table 14</td>
<td>Top 20 Companies Aggregate Capitalisation Over Seven Years</td>
<td>167</td>
</tr>
<tr>
<td>Table 15</td>
<td>Normal Distribution Models</td>
<td>168</td>
</tr>
<tr>
<td>Table 16</td>
<td>Gamma Distribution Models</td>
<td>172</td>
</tr>
<tr>
<td>Table 17</td>
<td>Significance of Sector, Year, and Size in Model</td>
<td>173</td>
</tr>
<tr>
<td>Table 18</td>
<td>Chapter 3 Data and Methods</td>
<td>177</td>
</tr>
<tr>
<td>Table 19</td>
<td>Descriptive Statistics</td>
<td>195</td>
</tr>
<tr>
<td>Table 20</td>
<td>Variable Definitions</td>
<td>198</td>
</tr>
<tr>
<td>Table 21</td>
<td>Descriptive Statistics for the Jones Regression Model</td>
<td>199</td>
</tr>
<tr>
<td>Table 22</td>
<td>Spearman and Pearson Correlation Matrix for explanatory variables (n=497)</td>
<td>199</td>
</tr>
<tr>
<td>Table 23</td>
<td>Largest Identified Discretionary Accruals (497 firm years)</td>
<td>201</td>
</tr>
<tr>
<td>Table 24</td>
<td>Significance of Sector vs. Sector in Model</td>
<td>205</td>
</tr>
<tr>
<td>Table 25</td>
<td>Woodside Petroleum Reported Results ($mil)</td>
<td>212</td>
</tr>
<tr>
<td>Table 26</td>
<td>Content Analysis of Woodside Financial Statements</td>
<td>213</td>
</tr>
<tr>
<td>Table 27</td>
<td>Woodside Depreciation and Amortisation</td>
<td>214</td>
</tr>
<tr>
<td>Table 28</td>
<td>National Australia Bank Reported Results ($mil)</td>
<td>220</td>
</tr>
<tr>
<td>Table 29</td>
<td>Content Analysis of NAB Financial Statements</td>
<td>221</td>
</tr>
<tr>
<td>Table 30</td>
<td>News Corporation Reported Results ($mil)</td>
<td>229</td>
</tr>
<tr>
<td>Table 31</td>
<td>Content Analysis of News Corporation Financial Statements</td>
<td>230</td>
</tr>
<tr>
<td>Table 32</td>
<td>Chapter 4 Summary of Research Findings</td>
<td>233</td>
</tr>
<tr>
<td>Table 33</td>
<td>Chapter 5 Summary of Conclusions from Research</td>
<td>249</td>
</tr>
<tr>
<td>Table 34</td>
<td>Chapter 6 Summary of Limitations and Future Directions for Study</td>
<td>261</td>
</tr>
<tr>
<td>Number</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>Figure 1</td>
<td>Distinction between Fraud and Creative Accounting</td>
<td>83</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Relationship of the Model Variables</td>
<td>157</td>
</tr>
<tr>
<td>Figure 3</td>
<td>A Relativity River For all Years</td>
<td>174</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Histogram of Distribution of NPAT (total sample)</td>
<td>184</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Histogram of Distribution of NPAT (total sample)</td>
<td>187</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Histogram of Distribution of NPAT (Sectors 1, 2 and 5)</td>
<td>188</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Histogram of Distribution of NPAT (Sector 3 - Financials)</td>
<td>191</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Histogram of Distribution of NPAT (Sector 4 - Consumer Discretionary)</td>
<td>193</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Relativity River for Sectors 1, 2 &amp; 5</td>
<td>210</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Woodside Petroleum Reported NPAT</td>
<td>213</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Relativity River For Sector 3</td>
<td>218</td>
</tr>
<tr>
<td>Figure 12</td>
<td>National Australia Bank Reported NPAT</td>
<td>221</td>
</tr>
<tr>
<td>Figure 13</td>
<td>Relativity River for Sector 4</td>
<td>227</td>
</tr>
<tr>
<td>Figure 14</td>
<td>News Corporation Reported NPAT</td>
<td>230</td>
</tr>
</tbody>
</table>
ABSTRACT

CREATIVE ACCOUNTING: AN EMPIRICAL EXAMINATION

“Australian firms, already strong practitioners of creative accounting, are jumping on the bandwagon [of a change to an IASB standard allowing firms flexibility to amortise assets]” – Paul Kerin (The Australian, 13 April 2009). A search of articles in the Australian news media specifically using the words “creative accounting” reveals widespread use of this term. The world economic crisis of 2008 and 2009 has again placed a spotlight on financial reports of public companies and the accounting standards from which the reports are derived.

Despite some studies having suggested that investors are not fooled by creative accounting practices (that investors somehow see through accounting techniques and adjust for differences (Dharan and Lev 1993 p493), it seems clear that the market has been fooled by financial reports which did not reflect the real-world phenomena, at least anecdotally (Sterling and Harrison 1974 p147).

The accounting profession has a special franchise granted to it by the community, to appraise the value and legitimacy of end-of-year financial reports (Briloff 2002 p1). Some suggest creative accounting conjures perceptions of financial permissiveness, and the continued presence of creative accounting practices evidenced through autopsies of corporate failures is associated with a crisis of confidence in the Australian accounting profession (Clarke et al. 2003 pp29-30).
There has been limited empirical work identifying creative accounting in Australia (Healy and Wahlen 1999). A central thesis of this dissertation is to ascertain empirically the extent creative accounting may be present in financial statements of Australian companies from 1998 to 2004.

Three tests were utilised to obtain evidence which may be consistent with the potential presence of creative accounting: a histogram analysis (Holland and Ramsey 2003), a regression analysis based on the Jones (1991) model and a gamma regression model (developed within) with supporting company case studies. An initial sample comprised 71 firms (497 firm years) who were listed as top 200 Australia companies continuously in each of the seven years of the sample period. The financial sector has been included within this dissertation, in contrast to other Australian studies where this sector has been specifically excluded.

The findings of this dissertation provide evidence that certain Australian ASX 200 companies’ financial reports are likely to contain creative accounting. The histogram analysis of the reported profits provides the strongest evidence that creative accounting is within the financial reports of certain sample companies, whilst the Jones (1991) regression analysis proves to be a weak indicator of creative accounting within the sample companies. An explorative model was developed and identified the financial reports of three companies which exhibited likely signals of creative accounting.
CERTIFICATION

I hereby certify that this thesis is original and does not contain without acknowledgement any material previously published or material which to a substantial extent has been accepted for the award of any other degree or diploma of a university or other institute of higher learning.

[Signature]

Stephen Max Crouch

March 2010
ACKNOWLEDGMENTS

The author wishes to thank Professor Tyrone Carlin for guiding, challenging and reviewing this work through to completion, Bin Qin for his statistical modelling assistance and the research office at the MGSM including Dr Steven Segal and Elizabeth Thomas.

To my patient, but much loved Ethan, Stevie and Mercedes.

To Donna - generous, gracious and gorgeous.